



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,207	02/20/2004	Jim B. Surjaatmadja	2003-IP-012367U1	6688

7590 01/19/2007
Robert A. Kent
Halliburton Energy Services
2600 South 2nd Street
Duncan, OK 73536-0440

EXAMINER

CARRILLO, BIBI SHARIDAN

ART UNIT	PAPER NUMBER
----------	--------------

1746

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/783,207

Applicant(s)

SURJAATMADJA ET AL.

Examiner

Sharidan Carrillo

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-18 and 60-66 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3,5-18 and 60-66 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-3, 5-18, 62-63 and 65 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The limitations of 350 microns and the pressure differential of from 60 psi is not supported by the specification as originally filed. Paragraph 20 teaches a particle size in the range of about 400 to about 8 mesh. Paragraph 23 of the specification teaches a pressure differential below about 2000 psi. Paragraph 21 teaches a pressure differential in the range of 1500 psi to 10,000 psi.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 and 6-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Roelofs et al. (5993562).

Roelofs teaches a method of cleaning the interior surfaces of a fluid delivery system by blasting with an abrasive particle in a liquid carrier. In col. 6, lines 1-65, Roelofs teaches particle sizes ranging from 5 to 500 microns. In reference to claim 1, col. 5, lines 10-11 teaches an inlet pressure of 70 psi. In reference to claims 2-3, refer to col. 6, lines 53-55. In reference to claims 6-7 and 10-13, refer to col. 6, lines 30-39 which teach abrasive particles comprising starch, boric acid, calcium borate, zinc borate, and sodium bicarbonate. In reference to claims 8-9, refer to col. 6, lines 53-67. In reference to claim 14, the limitations are inherently met since Roelofs teaches the claimed particle size.

5. Claims 1-3, 6-8, 10-15, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Yam (5827114).

Yam teaches a method of cleaning a surface comprising jetting against a surface a cleaning fluid comprising a liquid base fluid with degradable particles having a particle size within the range of 10-10,000 microns, and a pressure of below 500 psi (abstract, col. 5, lines 35-40). In reference to allowing the particles to degrade, col. 9, lines 46-55 teaches that after contact with the substrate, the abrasive particles are broken down and have a smaller diameter. Re claim 2, refer to col. 6, lines 49-50. Re claim 3, refer to col. 1, lines 27-28 teach water. Re claim 6, Yam teaches metal salts. Re claim 7,

refer to col. 11, lines 15-17. Re claim 8, refer to col. 6, lines 1-55. Re claim 10-13, refer to col. 5, lines 65-68. Re claim 14, refer to col. 5, lines 33-40. Re claim 15, refer to col. 8, lines 59-60. Re claim 17, refer to col. 11, lines 19-20.

6. Claims 1-3, 8, 14-15, 60, and 63-64 are rejected under 35 U.S.C. 102(b) as being anticipated by Spears, Jr (5384990).

Spears teaches a method of wet blasting in order to clean a substrate surface (abstract, col. 1, lines 10-15). Re claim 1, 14, and 63-64, Spears teaches jetting a cleaning fluid comprising water (col. 5, lines 45-50) and degradable abrasive blast particles (col. 5-6 teaches dissolution of the abrasive media), having a particle size between 50-500 microns (col. 4, lines 40-45), and blasting at a pressure of at least about 500 psi, and typically greater than about 3000 psi (col. 6, lines 45-48). Example 8 teaches a pressure of 10,000 psi. Re claims 2-3, col. 5, lines 45-47 teaches water. Re claim 8, col. 5, lines 46-47 teach the carrier fluid as glycerin. Re claim 15, col. 6, lines 45 teach a pressure of about 500 psi. Re claim 60, Spears teaches blasting a surface with a water-soluble polymer in combination with an abrasive particle and water. Re claim 60, the limitations of degradable polymer reads on the teachings of a water soluble polymer, recited in col. 5, lines 55-57).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the

Art Unit: 1746

subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-3, 6, 14-15, 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yam (5512071).

Yam teaches a method of stripping contaminants from a solid surface comprising blasting the surface with water-soluble abrasive particles having a particle size between 10-1000 microns at a pressure of from 10-100psi. Yam fails to specifically teach the

Art Unit: 1746

particles degrading. However, one would have reasonably expected the particles to degrade since the abrasive particles are water-soluble and are disposed in a water stream. Re claims 2-3, col. 3, lines 20-21. Re claim 6, col. 3, lines 32-85. Re claim 14, col. 3, lines 10-15. Re claim 15, col. 6, lines 60-61. Re claim 17, col. 5, lines 34-35. Re claim 18, col. 6, lines 59-60.

11. Claims 1-3, 5, 14, and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto (457396) in view of Yam et al. (5827114).

Matsumoto teaches a method of wet blasting a surface with blasting media in order to clean the surface. In col. 3, lines 5-10, Matsumoto teaches blasting media comprising particles having a diameters of less than 0.5mm, which is equivalent to 500 microns. In col. 6, lines 20-25, Matsumoto teaches jetting the blasting media with water and compressed air against the object to be cleaned.

Matsumoto fails to teach the limitations of directing a jet at a pressure differential of about 60 psi. Yam teaches wet blasting at liquid pressures of less than 500 psi in order to effectively remove contaminants. It would have been within the level of the skilled artisan to include a pressurized stream, as taught by Yam, for purposes of blasting the surface in order to enhance the removal of contaminants from the substrate surface. In reference to the particle degrading, one would reasonably expect the particles to degrade since Matsumoto teaches the same polymeric particle (polycarbonate and polyester), as the instantly claimed invention. Matsumoto teaches the genus polycarbonate and polyester as the claimed invention. Matsumoto teaches the genus polycarbonate and polyester, which would include aliphatic polycarbonate

Art Unit: 1746

and aliphatic polyester. Therefore, one would reasonably expect the particles of Matsumoto to be capable of degradation as well. In reference to claims 2-3, refer to col. 6, lines 20-25. In reference to claim 5, refer to col. 4, lines 27-29. In reference to claim 14, the limitations are met since Matsumoto teaches a particle size of less than 500 microns. In reference to claim 65, Matsumoto teaches the genus polyester, which would include polyorthoester.

12. Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yam (5827114) in view of Yam et al. (5865902).

Yam teaches the blast nozzle 20 at an angle to blast the substrate surface. Yam fails to teach the angles recited in claim 16. Yam teaches a method of cleaning contaminants from a substrate. Col. 5, lines 45-60 teaches positioning the blast nozzle at an angle of about 30 degrees for purposes of effectively removing contaminants from the substrate surface. It would have been within the level of the skilled artisan to have modified the method of Yam to include positioning the blast nozzle at an angle of about 30 degrees, as taught by Yam, for purposes of effectively removing contaminants from the substrate surface. Yam '114 fails to teach the amount of degradable particles. Col. 5, lines 30-35 of Yam '902 teaches 1-10 lbs of media. It would have been within the level of the skilled artisan to have adjusted the amount of abrasive particles in solution, depending on the type of surface to be cleaned and the amount of contaminants present on the substrate surface.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roelofs et al. (5993562) in view of Houghton (EP0510762).

Roelofs fails to teach the limitations of claim 17. Houghton teaches a cleaning composition comprising abrasive particles, such as perborate compounds. On page 8, lines 50-65, Houghton teach that the cleaning compositions include conventional adjuvants such as corrosion inhibitors. It would have been obvious to a person of ordinary skill in the art to modify the method of Roelofs to include adjuvants, such as corrosion inhibitors, as taught by Houghton, which are conventionally used in the cleaning compositions.

14. Claims 60-62 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto (457396) .

Matsumoto teaches a method of wet blasting a surface with blasting media in order to clean the surface. In col. 3, lines 5-10, Matsumoto teaches blasting media comprising particles having a diameters of less than 0.5mm, which is equivalent to 500 microns. In col. 6, lines 20-25, Matsumoto teaches jetting the blasting media with water and compressed air against the object to be cleaned.

In reference to the particle degrading, one would reasonably expect the particles to degrade since Matsumoto teaches the same polymeric particle (polycarbonate and polyester), as the instantly claimed invention. Matsumoto teaches the genus polycarbonate and polyester as the claimed invention. Matsumoto teaches the genus polycarbonate and polyester, which would include aliphatic polycarbonate and aliphatic polyester. Therefore, one would reasonably expect the particles of Matsumoto to be capable of degradation as well. In reference to claims 61-62, refer to col. 4, lines 25-29

and col. 3, lines 3-5. In reference to claim 66, Matsumo teaches the genus polyester, which would include polyorthoester.

Response to Arguments

15. The rejection of the claims, under 112, first paragraph, new matter is maintained since the newly amended limitations of pressure and particle size are not supported by the specification as originally filed. On page 9 of applicant's response, applicant states that a size of 400 mesh corresponds to 37 microns and a size of 8 mesh corresponds to 2380 microns. The limitation of 350 microns is not supported by the originally filed specification. Applicant argues that the rejection under 112, first paragraph, new matter is improper because arguing lack of literal support is not enough to satisfy the initial burden by the examiner. Applicant's arguments are unpersuasive. The specification teaches 37 microns and 2380 microns. The limitation of 350 microns is not recited in the specification and/or original claims nor is it presented in any working example in the specification. If applicant intends to amend the claims to include any numerical value, without support in the original specification and/or claims, the claims will continually be rejected as new matter under 112, first paragraph. Additionally why would applicant chose 350 microns, what is the criticality in picking this number.

16. The limitation of 60 psi constitutes new matter for the same reasons given for 350 microns. Applicant argues that there is sufficient support because the specification teaches a pressure differential below about 2000psi. Applicant's arguments are unpersuasive since the original specification and/or claims and/or working examples

Art Unit: 1746

provide no support or teachings for 60 psi. Additionally, the teachings of below 2000psi would include numerical values which are lower or higher than 60 psi. Why would anyone choose 60 psi and which is the criticality of this pressure value?

17. The rejection of the claims, under 112, second paragraph is withdrawn in view of arguments presented by applicant.

18. Re claims 1-3, 6-14, as being anticipated by Roelofs, applicant argues that Roelofs do not teach a pressure differential that is greater than 60 psi. Applicant argues that Roelofs teaches a pressure differential of 60 psi. Applicant's arguments are unpersuasive since claim 1 does not require a pressure differential greater than 60 psi. Applicant's arguments are unpersuasive because they are not commensurate in scope with the instantly claimed invention.

19. Re claims 1-3, 6-8, 10-15, and 17, applicant argues that Yam fail to teach the kind of chemical degradation that the claims require. Applicant argues that based on the specification, degradable particle are materials capable of undergoing an irreversible degradation during or after use. Applicant's arguments are unpersuasive since the teachings of breakdown of particles by Yam reads on applicant's definition of degradable particles. The claims are broadly interpreted such that degradation of particles occurs before, during or after contact with the substrate.

20. Re claims 1-3, 6, 14-15, 17-18, applicant argues that Yam fails to teach the Yam fail to tech the kind of chemical degradation that the claims require. Applicant argues that based on the specification, degradable particles are materials capable of undergoing an irreversible degradation during or after use. Applicant's arguments are

Art Unit: 1746

unpersuasive since the teachings of particles being soluble (i.e. dissolving) in water reads on applicant's definition of degradable particles. The claims are broadly interpreted such that degradation of particles occurs before, during or after contact with the substrate.

21. Re claims 1-3, 5-14 and 60-62, applicant argues that Matsumoto's disclosure of the genus polycarbonates and polyesters does not teach or suggest the species of degradable polyesters and polycarbonates. Applicant's arguments are unpersuasive. Independent claim 1 is not limited to a specific polycarbonate and/or polyester.

Additionally, the burden is shifted on applicant to show that the genus polyester and polycarbonate of Matsumoto would not include the aliphatic polyester or aliphatic polycarbonate. Applicant argues that even if the polycarbonates of Matsumoto are not necessarily of the type that are resistant to degradation, it would not be reasonable to expect that the polycarbonate particles disclosed in Matsumoto are capable degradation. Applicant's arguments are not persuasive. Applicant has not provided any evidence or showing to support the argument that the polymers of Matsumoto are not degradable. Since Matsumoto teaches the genus polycarbonate and polyester, which would include the species aliphatic polycarbonates and aliphatic polyesters, one would reasonable expect the particles of Matsumoto to be capable of degradation as well.

22. Re claims 16 and 18, Applicant argues that Yam fails to teach degradable particles. Applicant's arguments are unpersuasive for the reasons previously recited in paragraph 19 above. Applicant further argues the improper combination of Yam '114

Art Unit: 1746

with Yam '902 since Yam '902 teaches particle sizes of no larger than 300 micron.

Applicant's arguments are unpersuasive since Yam '902 is not relied upon for a teaching of particle size. Yam '902 is relied upon to teach various angles of the blast nozzles for effectively removing contaminants from the substrate surface.

23. Re claim 17, Applicant argues that Roelofs fail to teach a pressure differential of 60 psi. Applicant's arguments are unpersuasive since applicant clearly admitted on page 10 of the response that Roelofs teaches a pressure differential of 60 psi.

Applicant further argues that neither Roelofs or Houghton is relied upon to teach corrosion inhibitors. Applicant argues that Houghton fails to teach jetting a cleaning fluid at a surface. Applicant's arguments are unpersuasive since Houghton teaches hard surface cleaning using an abrasive. Additionally, Houghton is relied upon to teach conventional adjuvants found in cleaning solutions.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 1746

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

24. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Matsumoto et al. teach blasting media for use in wet blasting. Clark, Jr et al. teach removing paint using high pressure water jet blasting. Quirke teaches water jet cutting.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharidan Carrillo whose telephone number is 571-272-1297. The examiner can normally be reached on M-W 6:30-4:00pm, alternating Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sharidan Carrillo
Primary Examiner
Art Unit 1746

bsc



SHARIDAN CARRILLO
PRIMARY EXAMINER